

# **Luxury hotels going green – the antecedents and consequences of consumer hesitation**

## **Abstract**

Luxury hotels might be hesitant to operate in a more environmentally friendly way because they worry that such practices will decrease their authenticity and brand value. However, hotels can have profound impacts on the natural environment. Research on consumers' perceptions of luxury hotels' green practices might add new insight to the luxury hotel consumption literature and research on sustainability. The purpose of this study is to explore the influences of perceived risks on luxury hotel consumers' hesitation and subsequent purchase intentions. In addition, the moderating effect of consumers' green hotel knowledge will be examined. A total of 548 participants from Taiwan completed questionnaires, which revealed that perceived risks (i.e., perceived functional risk, perceived financial risk, perceived hedonic risk, and perceived self-image risk) can significantly influence hesitation, which can in turn affect purchase intentions. Furthermore, the moderating effect of green hotel knowledge was partially supported. Several implications of the study are identified, and avenues for future research are suggested.

**Keywords:** luxury service products; luxury hotel; perceived risk; green hotel knowledge; hesitation

## **Introduction**

The concept and practices of green hotels have attracted the attention of scholars, policymakers, and practitioners due to the potential impacts of hotels on the natural environment (Chen & Peng, 2012; Han, Hsu, & Sheu, 2010; Kim & Han, 2010). However, since the 2010s, consumers have become more critical and aware of hotels' greenwashing propensities (Rahman, Park, & Chi, 2015), which has caused some hotels to be hesitant when considering adopting new or additional green practices. Greenwashing in the hotel industry context often involves hospitality services, in which providers overstate their efforts to protect the environment when cost-saving is their actual motive. An example of this is asking lodgers to reuse their towels to conserve water but with the additional, or even sole, motive of trying to reduce laundry expenses (Ponnappureddy, Priskin, Ohnmacht, Vinzenz, & Wirth, 2017; Rahman et al., 2015).

Within the hotel industry, the luxury hotel sector has an additional reason to be hesitant to operate in a more environmentally friendly way, as hoteliers may worry that such behavior will decrease their hotels' perceived luxury value, authenticity, and brand image (Cervellon, 2013; Kang, Stein, Heo, & Lee, 2012). To achieve and maintain luxury status, hoteliers must sometimes adopt practices that could have a negative impact on the natural environment (Line & Hanks, 2016). This can be a particular concern for researchers, practitioners, policymakers, and the public, as luxury hospitality services represent the third largest market share in the global luxury product industry behind personal luxury goods and luxury cars. In addition, luxury hospitality services have been growing steadily and were valued at US\$217.6 billion in 2017 (Bain & Company, 2018). A luxury hotel is defined as a hotel that is unique and superior in quality and that provides excellent service and symbolizes the wealth and status of its patrons (Berthon, Pitt, Parent, & Berthon, 2009; Chen & Peng, 2014).

Considering the developments mentioned above and the observation that the survival of green products is partially dependent on consumers' willingness to support green products,

such as staying at green hotels when traveling (Chan, 2001; Teng, Wu, & Liu, 2013; Ponnappureddy et al., 2017), further research on how consumers perceive luxury hotels' green initiatives could add value to existing theory and practices. Researchers have investigated luxury hotels and environmentally friendly practices (e.g., Chen & Peng, 2012; 2014; Baker, Davis, & Weaver, 2013; Kang et al., 2012; Manaktola & Jauhari, 2007); however, opportunities for further research exist.

First, Wiedmann, Hennigs, and Siebels (2009) suggested that consumers evaluate the value and risks of luxury products before making a purchase. However, existing research on luxury service products tends to focus more on these products' perceived luxury value than their perceived risks (Chen & Peng, 2018; Hyun & Han, 2015; Peng & Chen, 2019; Petrick, 2002; Yang & Mattila, 2016). A number of studies have confirmed that there is a significant relationship between perceived luxury value and intention to consume luxury brands/products (Berthon et al., 2009; Chen & Peng, 2018; Peng & Chen, 2019; Wiedmann, Hennigs, & Siebels, 2009; Yang & Mattila, 2016). Nevertheless, purchasing luxury service products when traveling for tourism purposes involves risks given that these tourists have little or no opportunity to sample a luxury service prior to consumption and that the service quality is generally more variable than the product quality (Chen & Peng, 2018). Furthermore, initiating new green practices might contribute to tourists' perception of luxury hotels' risks, as some of these practices require hoteliers to change their existing procedures and offers (Cervellon, 2013; Kang et al., 2012; Rahman et al., 2015). An examination of the impact of consumers' perceived risk regarding luxury hotels that initiate new green practices on tourists' decision-making processes can contribute to the literature on environmentally friendly practices and luxury hotel consumption.

Second, when promoting green products, Cronin Jr., Smith, Gleim, Ramirez, and Martinez (2011) mentioned that consumers' green product knowledge is a key factor that

companies need to beware of because knowledge has the potential to influence all phases of the consumption decision-making process (Laroche, Bergeron, & Barbaro-Forleo, 2001). It has been suggested that the survival of green products and green practices is partially based on consumers' understanding of the importance of environmental issues (Chen & Peng, 2012); however, whether consumers' knowledge about green hotels is sufficient to offset the concerns that consumers have when selecting luxury hotels that implement new green practices remains to be explored. Additional research on how consumers' green hotel knowledge might moderate the effects of perceived risks on consumers' level of hesitation might shed new light on the relationships between knowledge, perceived risks, and hesitation. It could also provide implications for practitioners and policymakers.

To narrow the gaps in the literature, this research examines tourists' consumption of luxury hotels when these hotels implement new green practices. The target research question is as follows: "How do consumers' perceived risks regarding luxury hotels and consumers' green hotel knowledge influence their hesitation levels and purchase intentions when luxury hotels implement new green practices?" The study aims to contribute to existing theory and narrow the gaps in the sustainable tourism literature and luxury product consumption research in three ways. First, it provides a framework for examining tourists' hesitation to stay at luxury hotels when traveling and their purchase intentions by incorporating a "green hotel knowledge" variable into a consumption risk model. Second, the study tests the influence of perceived risks (i.e., perceived functional risk, perceived financial risk, perceived self-image risk, and perceived hedonic risk) on tourists' levels of hesitation to stay at luxury hotels when traveling. Third, it examines the ability of green hotel knowledge to moderate the effects of perceived risks on hesitation.

## **Literature Review**

To support the investigation, the study draws on protection motivation theory, which studies the likelihood that an individual will engage in protective behavior when exposed to a risky decision-making process (Roger, 1975; Wong & Yeh, 2009; Youn, 2009). An individual's motivation to protect himself/herself from risks arises from several appraisal processes, including the likelihood the risk will occur, the severity of the risk, and the potential that protective behavior will reduce the risk (Rogers, 1975). Later studies further developed this theory by suggesting that self-efficacy, response costs, and rewards are also relevant to studying how an individual might respond to risk (Maddux & Rogers, 1983; Rogers, 1983). Although the relevant framework of protection motivation theory has been expanded, its main goal remains: to understand the likelihood that an individual will engage in protective behavior when making a decision that is risky and/or has a highly uncertain outcome (Wong & Yeh, 2009). Protection motivation theory has been used to study the effectiveness of marketing communication techniques, such as fear appeals, and online security (Anderson & Agarwal, 2010; Gallopel-Morvan, Gabriel, Gall-Ely, Rieunier, & Urien, 2011; Youn, 2009), and it has been applied to the study of tourist behavior because travel decisions are often influenced by individuals' perceptions of the safety and risks of a region (Soñmez & Graefe 1998; Wong & Yeh, 2009).

To examine tourists' evaluation of luxury hotels when these hotels implement new green practices, this study focuses on consumers' perceived risks regarding luxury hotels. Wiedmann et al. (2009) reported that consumers evaluate the value and risks of luxury products before making a purchase. Nonetheless, consumers' decision to purchase luxury service products when traveling might be heavily influenced by their risk perception given that these tourists have little or no opportunity to sample a luxury service prior to consumption and that these services tend to be more expensive than nonluxury services (Chen & Peng, 2018). Because luxury service products tend to have premium quality, recognizable style, strong

reputation, and high hedonic value, in addition to being more expensive than nonluxury service products, researchers have suggested that the particular characteristics of these products must be taken into account (Chang & Ko, 2017; Chen & Peng, 2018; Yang & Mattila, 2016). For this reason, this study adopts Chang and Ko's (2017) perceived risk dimensions because their research context was luxury hospitality services.

Chang and Ko (2017) delineated four perceived risks when purchasing luxury services: perceived functional risk, perceived financial risk, perceived hedonic risk, and perceived self-image risk. In the context of this research, the financial risk of a luxury hotel relates to consumers' perceptions of whether staying at luxury hotels that adopt new green practices when traveling is worth the price (Wiedmann et al., 2009). Functional risk refers to the perceived risk that purchasing a luxury hotel service after it initiates new green practices might fail to provide the desired utility and performance (Chang & Ko, 2017). Hedonic risk relates to consumers' perceptions of whether staying at luxury hotels that adopt new green practices when traveling can arouse their emotions of indulgence, joy, and pleasure (Yang & Mattila, 2016). Self-image risk refers to consumers' perceived risk that their self-image could be negatively affected after staying at luxury hotels that have adopted new green practices (Chang & Ko, 2017).

In terms of the direct influence of these perceived risks, this research focuses on hesitation (Chang & Wu, 2012). Hesitation is one of the decision-making styles that consumers display when encountering information provided by marketers (Wong & Yeh, 2009), and it has been studied in the online shopping context (Chang & Wu, 2012; Huang, Korfiatis, & Chang, 2018; Zheng, Lee, & Cheung, 2017). This decision-making style is particularly influential before consumers make their final purchase decision. Consumers could be exhibiting an avoidance behavior and/or a postponing behavior when they hesitate (Wong & Yeh, 2009). Furthermore, hesitant consumers are more likely to abandon their shopping cart compared to

less hesitant consumers (Huang et al., 2018). The concept of hesitation has been applied to the tourism context. In their study on consumers of group package tours, Wong and Yeh (2009) confirmed that tourists will hesitate in their decision to choose a destination if the destination is perceived as risky or potentially unsafe. This occurs because travel decisions can be influenced by the perception of risk that consumers have of specific regions. In this study, hesitation refers to the consumer's decision to postpone or defer luxury hotel stays by taking additional processing time before making final product purchase decisions. Regarding the influence of hesitation, this research examines tourists' purchase intention, which is defined as a consumer's desire to stay at luxury hotels while participating in international tourism (Ajzen, 1991).

Finally, although studies have shown that perceived risk could cause an individual to hesitate, the literature has also shown that being knowledgeable about the subject could moderate this relationship (Chang & Wu, 2012; Wong & Yeh, 2009). Consumers' knowledge influences all phases of the consumption process (Laroche et al., 2001), and some researchers have suggested that it is particularly influential when consumers process market/product information (Lin & Chen, 2006). Consumers' product knowledge has been identified as a key factor when purchasing luxury products and green hotel stays (Bian & Moutinho, 2011; Chen & Peng, 2012). For example, tourists are more willing to stay at environmentally friendly hotels if they consider themselves to be knowledgeable about the details of green hotels and environmentally friendly practices (Chen & Peng, 2012).

Given that knowledge could influence multiple stages of the consumer decision-making process, an exploration of the influence of green hotel knowledge on tourists' luxury hotel stay decision-making process when hotels implement new and/or additional green initiatives can benefit existing literature and practices. It should be mentioned that previous research has used both subjective and objective measures to evaluate consumers' knowledge levels. Wong and

Yeh (2009) recommended using subjective measures to study tourists' behaviors, as they provide a better understanding of tourists' decision making from the tourists' perspective than objective knowledge measures. In this study, green hotel knowledge is defined as consumers' self-perceived knowledge of facts, concepts, and relationships concerning the impact of hotels on the natural environment (Fryxell & Lo, 2003).

### **Research Framework and Hypotheses**

Based on related prior studies and the identified research gap, this study proposes its framework. The study hypothesizes that perceived risk (i.e., perceived functional risk, perceived financial risk, perceived hedonic risk, and perceived self-image risk) could influence hesitation, which could in turn affect consumers' intentions. In addition, the study proposes that green hotel knowledge can moderate the relationship between perceived risk and hesitation.

The first relationship to be examined is the influence of perceived functional risk on tourists' hesitation levels. One of the key characteristics of luxury products is superior quality (Berthon et al., 2009; Chen & Peng, 2018; Yang & Mattila, 2016). When making a purchase, luxury product consumers will be concerned about the ability of these products to provide superior utility in comparison to nonluxury products (Chang & Ko, 2017). Luxury hotels must sometimes alter their offerings and procedures when implementing new environmentally friendly practices, such as lowering the water pressure of showerheads to conserve water (Kang et al., 2012). Some consumers worry that new green practices can be detrimental to the comfort aspects of their hotel experiences (Barber & Deale, 2014; Line & Hanks, 2016). Cervellon (2013) suggested that one of consumers' main worries when luxury brands try to operate in a more sustainable way is that the quality of products may no longer be superior to that of nonluxury products. Based on the research discussed above, the present study proposes that consumers will delay making the decision to stay at a luxury hotel if they are worried that the



hotel will no longer be well maintained because of the implementation of new green practices (H1).

H1: Perceived functional risk has a positive effect on consumers' hesitations toward staying at luxury hotels when participating in tourism activities.

The second hypothesis investigates the influence of perceived financial risk on consumers' hesitation toward staying at luxury hotels that have implemented new green practices. Financial risk addresses consumers' perceptions of the cost and sacrifice involved in purchasing luxury products (Wiedmann et al., 2009). Consumers acknowledge that luxury products tend to be more expensive than nonluxury products; however, they justify the additional expense because it is a good long-term investment and/or money well spent (Yang & Mattilia, 2016). When studying consumers' perception of green hotels, researchers have suggested that some consumers are not willing to pay extra to stay at green hotels because they believe that these hotels do not provide economic value (Ponnapureddy, Priskin, Ohnmacht, Vinzenz, & irth, 2017; Rahman, Park, & Chi, 2015). Given that luxury hotels tend to be more expensive than nonluxury hotels and that they represent a consumption experience that typically lasts only several days (Chen & Peng, 2014; Peng & Chen, 2019), perceived financial risk may be particularly relevant to consumers' hesitation toward luxury hotels that implement new green practices. Specifically, this study hypothesizes that consumers might wait a long time before purchasing luxury hotel stays if they believe staying at luxury hotels that have implemented new green practices is not worth the high price (H2).

H2: Perceived financial risk has a positive effect on consumers' hesitations toward staying at luxury hotels when participating in tourism activities.

The third hypothesis of this study focuses on the influence of perceived hedonic risk on consumers' hesitation. The ability of luxury products to provide a sense of pleasure and self-indulgence has been suggested as a key reason that consumers purchase them (Berthon et al., 2009; Vigneron & Johnson, 2004; Wiedmann et al., 2009), and this characteristic of luxury products is particularly relevant in the context of service. In their research, Jang and Namkung (2009) and Wu and Liang (2009) confirmed that the ability of luxury restaurants to inspire joy, happiness, and a sense of self-indulgence is important to consumers. Consumers stay at luxury hotels for reasons that extend beyond fulfilling basic needs. Thus, successful luxury hotels provide enjoyment for lodgers through various methods, for example, by offering a broad range of entertainment facilities (Peng & Chen, 2019). When studying consumers' perception of green hotels, researchers have found that some consumers worry that new green practices, such as not replacing towels unless consumers request it, will reduce hotels' ability to stimulate pleasure and excitement (Cervellon; 2013; Rahman et al., 2015). The present study hypothesizes that consumers' hesitation toward luxury hotels that implement new green practices may be positively affected by their perceptions of the hedonic risk of staying at luxury hotels when traveling (H3).

H3: Perceived hedonic risk has a positive effect on consumers' hesitation toward staying at luxury hotels when participating in tourism activities.

The fourth hypothesis examines the effect of perceived self-image risk on consumers' hesitation toward staying at luxury hotels that implement new green practices. One of the abilities of luxury products is to signal users' image to other individuals and to themselves. Moreover, these products may be used by consumers to express their values and beliefs (Chang

& Ko, 2017; Chen & Peng, 2018). In the case of luxury hotels, Chen and Peng (2014) reported that lodgers will have a better attitude toward luxury hotels if they believe that this hospitality service can highlight their status and wealth to other individuals and themselves. Furthermore, Chang and Ko (2017) suggested that the perceived risk of not being able to support users' image through luxury service products might cause consumers to not recommend these products to others. Luxury hotels employ multiple methods to sustain and enhance their customers' self-image, such as constructing luxurious lobbies filled with expensive ornaments, because hoteliers believe that these methods may lead to better evaluations from customers (Chen & Peng, 2018). However, implementing new green practices sometimes requires hotels to alter their design to be more energy efficient, such as installing solar panels on an aesthetically appealing rooftop (Kang et al., 2012). This research proposes that these green initiatives might cause consumers who use luxury hotel services to signal, sustain and enhance their self-image to postpone their purchase (H4).

H4: Perceived self-image risk has a positive effect on consumers' hesitation toward staying at luxury hotels when participating in tourism activities.

The fifth hypothesis tests the effect of hesitation on consumers' intentions to purchase luxury hotel stays when participating in tourism activities. During their research on consumer hesitation, Huang et al. (2018) found that the possibility of not completing a purchase increases with consumers' level of hesitation. This occurs because consumers tend to engage in protective behavior when exposed to decision-making processes and outcomes that they are unsure of (Maddux & Rogers, 1983). Apart from being more expensive than nonluxury service products, purchasing luxury service products when traveling involves additional uncertainty (Chen & Peng, 2018); therefore, consumers who delay making decisions to stay at luxury hotels

are likely to decide that they do not want to purchase luxury hotel stays when traveling. The present study proposes that consumers' hesitation toward luxury hotels will contribute to their intentions to not purchase luxury hotel stays when participating in tourism activities (H5):

H5: Consumer hesitation has a positive effect on consumers' intentions to not purchase luxury hotel stays when participating in tourism activities.

The sixth hypothesis tests the ability of green hotel knowledge to moderate the relationship between perceived risk (i.e., perceived functional risk, perceived financial risk, perceived hedonic risk, and perceived self-image risk) and hesitation. Wong and Yeh (2009) proposed and confirmed that destination-related knowledge is a key factor that can help tourists offset the uncertainty and risk associated with a destination when planning to purchase group package tours. They found that the influence of perceived risk on hesitation is lower for tourists who are knowledgeable about destinations than for tourists who are less knowledgeable.

Green hotel knowledge has been confirmed to moderate different stages of tourists' decision-making process (Laroche et al., 2001). Chen and Peng (2012) found that the decision-making process for staying at green hotels is different between tourists with a high level of green hotel knowledge and tourists with a low level of green hotel knowledge. Tourists with a high level of green hotel knowledge tend to be more confident about their decision, while their counterparts rely more on the suggestions of others. Wong and Yeh (2009) confirmed the moderating effect of knowledge on the relationship between perceived risk and hesitation; however, this study further investigates how knowledge might moderate the influence of different dimensions of perceived risk on hesitation. The present research hypothesizes that perceived risk regarding luxury hotels that have implemented new green practices will have a

stronger effect on tourists' hesitation levels when the tourists are less knowledgeable about green hotels than when they are more knowledgeable about green hotels (H6).

H6: Luxury hotel consumers' green hotel knowledge will moderate the positive effect of perceived risk (i.e., perceived functional risk, perceived financial risk, perceived hedonic risk, and perceived self-image risk) on hesitation.

## **Research Method**

### *Research context*

Taiwanese consumers were recruited for a study examining the proposed framework in this research. Between 2017 and 2018, the Asia-Pacific region had the highest percentage of outbound tourism visitors (4.5%) compared to other regions such as Europe (4.3%) and the Americas (4.3%). This trend is likely to continue in 2019 and 2020 (Statista, 2019). Within the Asia-Pacific region, Taiwan has performed well since 2015 in terms of outbound tourism visitor growth (Statista, 2019; Tourism Bureau, 2019), and Taiwanese society and businesses have begun to recognize the importance of tourism activities. Social changes, technology advancements, and economic development after the 1980s may have contributed to this trend (Tourism Bureau, 2019). Taiwanese consumers have shown that they are enthusiastic about consuming luxury services when traveling for tourism purposes (Peng & Chen, 2019). They have also demonstrated familiarity with and support for green hotels (Chen & Tung, 2014; Teng et al. 2013). Furthermore, 32.5% of Taiwanese individuals made at least one international trip between 2016 and 2017, and the average trip duration for Taiwanese tourists was approximately 8 nights (Tourism Bureau, 2019). Considering these developments, Taiwanese tourists have multiple opportunities to purchase hotel stays before traveling, and some tourists will stay at luxury hotels.

### *Sampling and data collection methods*

A nonprobability, purposive sampling technique was used to obtain the data. Using an interception technique, trained interviewers approached individuals who were about to enter or leave a luxury hotel in Taipei city, New Taipei city, Taichung city, or Kaohsiung city, Taiwan's four largest cities. This method was adopted to increase the likelihood of identifying consumers who might be interested in staying at luxury hotels when traveling abroad for tourism purposes. The purpose of the study was explained to the individuals who agreed to participate, and a set of screening questions was then asked. To be eligible to fill out the survey, potential participants needed to 1) be over the age of 18 years, 2) have stayed at luxury hotels when traveling abroad by themselves (rather than as part of a group package tour) within the previous twelve months, and 3) have plans to stay at luxury hotels when traveling abroad by themselves within twelve months after the survey administration. The questionnaire was administered to respondents who passed the screening questions. The interviewers checked for missing data, debriefed the respondents, and thanked them for their assistance once the survey was returned. During the ten-week data collection period, a total of 548 usable surveys were collected. The effective return rate was 75%.

To ensure that the interviewees understood the research context, a description of luxury hotels (e.g., five-star or better hotels with excellent services, a luxurious environment, and an average daily rate approximately twice that of four-star hotels in the same city) and examples of luxury hotels (e.g., Ritz Carlton London and Four Seasons Hotel New York) were explained to the participants prior to filling out the survey (Chen & Peng, 2014). In addition, a description of green hotels (e.g., an environmentally friendly lodging property that follows ecologically sound programs/practices) and examples of green practices (e.g., having solar panels installed

and implementing water conservation practices) were also explained to the participants prior to filling out the questionnaire (Chen & Peng, 2012; Han et al., 2010). The demographic profile of the sample is presented in Table 1.

\*Table 1 about here

### *Questionnaire design*

The interviewees completed a survey that consisted of two sections. The first section collected participant demographics, such as gender and age. The second section included 23 statements about the participants' purchase intentions (Hong & Cha, 2013), green hotel knowledge (Chen & Peng, 2012), hesitation (Wong & Yeh, 2009), perceived functional risk (Chang & Ko, 2017), perceived financial risk (Chang & Ko, 2017), perceived hedonic risk (Chang & Ko, 2017), and perceived self-image risk (Chang & Ko, 2017). These statements were generated from a review of the previous hospitality and tourism literature. A seven-point Likert-type scale was used in the item design. The items for each variable are presented in Table 2.

\*Table 2 about here

## **Data Analysis and Results**

### *Model measurement*

The data were analyzed by using IBM SPSS AMOS 24. Following Anderson and Gerbing's (1988) recommendation, a two-step approach to structural equation modeling (SEM) was carried out, i.e., an examination of the measurement model through confirmatory factor analysis (CFA), followed by an examination of the structural model. All the factor loadings on the intended latent variables were found to be significant and greater than 0.7 (Fornell &

Larcker, 1981). The reliability of the measurement items was supported through the squared multiple correlations. Convergent validity was analyzed in terms of factor loadings and average variance extracted (AVE). The AVE values ranged from 0.63% to 0.82% (Table 3); therefore, convergent validity was established (Fornell & Larcker, 1981). Discriminant validity was examined by comparing the AVE of each individual construct with the shared variances between the individual construct and all the other constructs. Discriminant validity was supported, as the AVE value for each construct was greater than the squared correlation between constructs (Table 3).

Common method variance was examined using a common latent factor (CLF) as suggested by Podsakoff, MacKenzie, Jeong-Yeon, and Podsakoff (2003). For this test, a latent variable was added to the CFA model and was then connected to all the observed factors in the model. The standardized regression weights of the new model were then compared with those of the original proposed model. The results between the two models were similar after comparison, supporting the assumption that this research was not significantly influenced by common method bias.

\*Table 3 about here

### *Structural model*

The structural model was examined after the overall measurement model was found to be acceptable. The model fit was good ( $\chi^2/df= 2.904$ ; RMSEA=0.059; CFI=0.972; NFI=0.958; GFI=.930), and the findings obtained from examining the proposed hypotheses are presented in Table 4. H1 was supported ( $t=6.39$ ;  $\beta=0.28$ ;  $p<0.001$ ) because the perceived functional risk of luxury hotels had a positive impact on tourists' hesitation. H2 posited that perceived financial risk would positively influence tourists' hesitation. H3 was also upheld ( $t=3.99$ ;  $\beta=0.32$ ;  $p<0.001$ ), as perceived hedonic risk had a positive impact on tourists' hesitation. H4



was supported ( $t=2.67$ ;  $\beta=.13$ ;  $p<0.01$ ), suggesting that perceived self-image risk significantly affects tourists' hesitation. The results gathered from the statistical analysis supported this hypothesis ( $t=2.16$ ;  $\beta=-.12$ ;  $p<0.05$ ). H5 was supported ( $t=11.70$ ;  $\beta=0.68$ ;  $p<0.001$ ), as tourists' hesitation had a positive impact on their purchase intentions (Table 4).

\*Table 4 about here

#### *The moderating effect of green hotel knowledge (H6)*

A multigroup analysis was performed to examine the moderating effect of tourists' green hotel knowledge. The respondents were divided into two groups, a high green hotel knowledge group and a low green hotel knowledge group, using means split before the analysis. The mean of the participants' spending was 4.31 on a seven-point Likert-type scale; therefore, those with spending means greater than 4.31 were categorized in the high green hotel knowledge group ( $N=294$ ), and those with means below 4.31 were categorized in the low green hotel knowledge group ( $N=254$ ).

To test the differential effect between the high green hotel knowledge group and the low green hotel knowledge group, the chi-square difference between the constrained and unconstrained models was assessed by the difference in degrees of freedom (Anderson & Gerbing, 1988). In the unconstrained model, all path coefficients in each group were freely estimated. In the constrained model, the path coefficients for the relationships between perceived functional risk and hesitation, perceived self-image risk and hesitation, perceived financial risk and hesitation, and perceived hedonic risk and hesitation were set equally across the two groups. The chi-square difference ( $\Delta\text{chi-square}=57.97$ ,  $\Delta\text{df}=18$ ) between the constrained model and the unconstrained model was significant ( $p<0.001$ ). The results demonstrated that the high green hotel knowledge group and the low green hotel group were significantly different on the model level.

To identify where significant differences appeared, coefficients for the relationships between perceived risk and hesitation were compared between the two groups (Table 5). Statistical tests revealed tourists' green hotel knowledge had a moderating role in the relationship between perceived functional risk and hesitation. The difference in the coefficients for H6a ( $\Delta\text{chi-square}=2.32$ ,  $\Delta\text{df}=1$ ,  $p<0.05$ ) between the constrained model and the unconstrained model was significant. Additionally, green hotel knowledge moderated the relationship between perceived hedonic risk and hesitation. The difference in the coefficients for H6c ( $\Delta\text{chi-square}=1.96$ ,  $\Delta\text{df}=1$ ,  $p<0.05$ ) between the constrained model and the unconstrained model was significant. Green hotel knowledge did not moderate the relationship between perceived self-image risk and hesitation. The difference in the coefficients for H6b ( $\Delta\text{chi-square}=1.18$ ,  $\Delta\text{df}=1$ ,  $p>0.05$ ) between the constrained model and the unconstrained model was not significant. Green hotel knowledge also did not moderate the relationship between perceived financial risk and hesitation. H6d was not supported ( $\Delta\text{chi-square}=1.08$ ,  $\Delta\text{df}=1$ ,  $p>0.05$ ) based on the results for the constrained model and the unconstrained model. Based on the above analysis, H6 was partially supported.

\*Table 5 about here

## **Discussion and Implications**

The findings of this research are generally consistent with the literature on protection motivation theory. Similar to individuals who faced decisions that have uncertain/risky outcomes, consumers of luxury hotels are likely to engage in protective behavior, which involves hesitancy in making a decision and abandonment of their intentions to purchase when deciding whether to stay at luxury hotels that are implementing new green practices (Roger, 1975). However, the findings also offer new insights into the luxury service product consumption literature and sustainable tourism research. The next section elaborates further on

the implications of this research for theory and how the findings compare and contrast with those of similar studies.

### *Theoretical implications*

First, few studies have explored whether and how adopting new green practices will affect consumers' evaluation of luxury products and subsequent purchase intentions despite marketers' concerns regarding the effects of these practices on the authenticity and brand image of their products (Cervellon, 2013; Kang et al., 2012). This research is one of the first to report that consumers will delay making a decision on whether to stay at luxury hotels when traveling if the luxury hotels are implementing new green practices. This occurs because consumers worry that luxury hotels might not be able to offer superior quality products, support their self-image, stimulate a sense of indulgence, and be considered a good investment. Moreover, consumers who hesitate about staying at luxury hotels are likely to have low intentions to purchase luxury hotel stays. Considering that consumers have become more critical and aware of hotels' greenwashing propensities since the 2010s (Rahman et al., 2015), that hotels can have profound impacts on the natural environment (Chen & Peng, 2012), and that the luxury hotel sector has the third largest market share in the global luxury product industry, which has been growing steadily (Bain & Company, 2018), this research contributes to the literature on sustainability and studies on luxury product consumption.

Second, existing research on luxury service products tends to focus more these products' perceived luxury value than their perceived risks. Additionally, few studies have explored the effects of different perceived risk dimensions on consumers' decision-making process despite consumers' propensity for evaluating the risks of luxury products before making a purchase (Wiedmann et al., 2009). The findings of this research demonstrated that luxury hotel consumers will postpone and/or avoid making a decision to stay at luxury hotels when traveling

if these hotels cannot justify their high costs, provide superior quality service, support/enhance consumers' self-image, and arouse their emotions of indulgence. Furthermore, previous tourism and hospitality studies have rarely discussed the consequences of consumer hesitation. To make an incremental contribution to the literature on hesitation, this research tests and finds that consumers' intentions to not purchase luxury hotel stays will be greater if their levels of hesitation are high.

Third, the present research examines the ability of green hotel knowledge to moderate the influence of perceived risk on hesitation. The results show that all four perceived risk dimensions can affect consumers' hesitation levels if consumers have a low level of green hotel knowledge. For consumers with a high level of green hotel knowledge, only perceived hedonic risk will cause them to hesitate. At first glance, this outcome seems to support the suggestion that these two groups of consumers are quite different from one another. However, on closer examination, the main difference between these two groups of consumers lies in the influences of perceived functional risk and perceived hedonic risk.

Consumers with low self-perceived green knowledge will display an avoidance behavior and/or a postponing behavior (i.e., hesitate) if they believe that new/additional green practices will cause luxury hotels to no longer have superior quality. Consumers with a high level of green knowledge will not hesitate even if they are concerned that the quality of luxury hotels might drop after the implementation of new green practices. Since the 2010s, some policymakers and members of the general public have been asking the hospitality industry to share some responsibility for the environment by implementing green practices (Kang et al., 2012; Line & Hanks, 2016; Martínez, Leaniz, Crespo, & López, 2018). It is possible that consumers who are more knowledgeable about green hotels recognize that hotels, luxury or not, will have to implement some green practices to respond to these requests. In other words,

these consumers do not hesitate to stay at luxury hotels because adopting new green practices could be a sector-wide trend for the hospitality industry.

Another significant difference between these two groups of consumers relates to the impact of perceived hedonic risk on hesitation. Both groups of consumers will hesitate to purchase luxury hotel stays if they are concerned that new green practices will cause the luxury hotels to not be fun or pleasurable. This finding confirms that a sense of pleasure and self-indulgence are key reasons that consumers purchase luxury products (Berthon et al., 2009; Wiedmann et al., 2009). However, the relationship between perceived hedonic risk and hesitation is significantly stronger among consumers with a low level of green hotel knowledge than among their counterparts with a high level of green hotel knowledge. Zsóka, Marjainé, Széchy, and Kocsis (2013) reported that university students are generally more knowledgeable about environmental issues than high school students. Furthermore, in terms of consumption behavior, university students are less hedonistic than high school students, and they have a more positive attitude toward environmentally friendly behavior. Consumers who are knowledgeable about green hotels might be less hedonistic when compared to consumers who are less knowledgeable about green hotels; therefore, they may be slightly more receptive to the possibility that staying at luxury hotels might not be as enjoyable as it was in the past because of the new green practices that these hotels have implemented.

Although perceived self-image risk and perceived financial risk will affect consumers' hesitation levels if they have a low level of green hotel knowledge and have a nonsignificant impact on hesitation levels among consumers with a high level of green hotel knowledge, the difference is not significant. Additional research is needed to further understand the potential causes and explanations underlying these outcomes. The next section discusses the potential implications of this research for practitioners and policymakers.

### *Practical implications*

For luxury hotel practitioners, this study's findings confirm the concern that adopting new/additional green practices can be risky for their businesses and brands. Apart from consumers who are more aware of hotels' greenwashing propensities, luxury hotels will likely lose their appeal, which could range from no longer being perceived as superior to nonluxury hotels, to not being able to support consumers' self-image, to not being perceived as a good investment, to no longer being pleasurable. For luxury hotels that still want to implement green practices to protect the natural environment, it is best to carry out these initiatives gradually, for example, by not suddenly lowering the water pressure of showerheads. In addition, luxury hotels should start implementing green practices in less noticeable areas. For example, solar panels should first be installed on a more discreet side of the rooftop and building. Last, luxury hotels should avoid highlighting their green practices to potential customers even if they sincerely want to operate in a more sustainable way. This means avoiding obvious signposts that tells consumers what actions have been taken to protect the natural environment.

If luxury hotels can determine their customers' self-perceived green hotel knowledge level, it could offer them a better idea of how to prioritize their green practices and how to inform their customers about these practices. Luxury hotels should implement green practices discreetly when most of their customers are not very knowledgeable about green hotels. These customers will hesitate and abandon their intentions to purchase if they have concerns about hotels' quality, ability to bring joy, economic value, or ability to support consumers' self-image. On the other hand, luxury hotels can celebrate their green practices more when most of their clients believe they have a high level of green hotel knowledge. The only condition is that luxury hotels should not let these consumers become concerned about the hotels' ability to arouse consumers' sense of indulgence. For example, luxury hotels should avoid implementing and/or highlighting green practices that are related to their entertainment facilities, such as

swimming pools and bars. Luxury hotel marketers could gather this information and construct relevant databases by sending surveys to existing customers.

Given that luxury hotels face many challenges when implementing new green practices, that hotels can have a profound impact on the natural environment, and that the luxury hotel sector is growing steadily, policymakers should take a more active role in assisting luxury hotels. Incentives such as tax refunds could be considered for luxury hotels that take extra steps to protect the natural environment. For example, to save on heating bills, some businesses have switched their automatic doors to semiautomatic doors that open after a button is pressed. Policymakers could consider subsidizing luxury hotels that have opted for energy-saving semiautomatic doors. Alternatively, policymakers could evaluate the possibility of promoting green practices by facilitating sector-wide self-regulations. For example, the government in Seoul, Korea, strongly encourages businesses and offices to set the temperature of their air conditioners to approximately 28 degrees Celsius during the summer period. With careful research and consultation, this approach could be useful to luxury hotels that operate in the same region, as they will be less worried about losing their luxury image to their direct competitors when they choose to operate in a more environmentally sustainable way.

### **Limitations, Future Studies, and Conclusions**

The present research provides several contributions to the luxury hotel consumption literature and sustainability studies by examining the relationships between perceived risk, hesitation, green hotel knowledge, and purchase intentions. Despite its contributions to the literature, this study has several limitations. First, for tourists with a low level of green hotel knowledge, perceived financial risk and perceived self-image risk both have a significant influence on hesitation levels. These two relationships were not significant for tourists with a high level of green hotel knowledge, but the difference between the two groups of tourists was not significant. Additional research should further explore the reasons underlying this outcome.

Second, although using subjective knowledge items to measure tourists' green hotel knowledge has benefits, future studies could consider using objective items or both to measure tourists' green hotel knowledge. This approach could extend the understanding of how knowledge might affect consumers' decision-making process. Third, luxury hotels have several types of rooms, such as standard rooms, premium rooms, and executive suites. The levels of service and prices for these rooms could be quite different. Researchers may want to explore whether spending in luxury hotels could moderate the influence of perceived risk on tourists' hesitation levels when luxury hotels implement new green practices.



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**Table 1- Characteristics of the Participants (N=548)**

Variables	Demographic traits	%
Gender	Male	45.3
	Female	54.7
Respondent's age	Between 18-30 years old	9.9
	Between 31-40 years old	22.8
	Between 41-50 years old	40.7
	Between 51-60 years old	19.5
	61 and above	7.1
	High school degree	10.4
Education	College degree	36
	University	40.5
	Postgraduate degree or above	13.1

**Table 2. Descriptive analysis of the measures (N=548)**

Variable/Adopted from	Measurement items
Perceived functional Risk (FuR) / Chang and Ko (2017)	If Luxury hotel X implements new green practices, I am concerned: FuR1: about its maintenance. FuR2: about its quality. FuR3: about its superiority to other hotels.
Perceived self-image Risk (SR) / Chang and Ko (2017)	SR1: that it would not fit in with my self-image. SR2: that it would not be approved by some people whose opinion I value. SR3: that it would not give me status.
Perceived hedonic Risk (HR) / Chang and Ko (2017)	HR1: that its aesthetic beauty may not be exactly what I pursue. HR2: that it would not offer me excitement. HR3: That it is not enjoyable.
Perceived financial Risk (FiR) / Chang and Ko (2017)	FiR1: that I really would not get my money's worth from it. FiR2: that it would be a bad way to spend my money on it. FiR3: that the financial investment in it would not be wise.
Hesitation (H) / Wong and Yeh (2009)	H1: I avoid making decision to stay in Luxury hotel X when I choose a hotel. H2: I put off making decision to stay in Luxury hotel X when I choose a hotel. H3: When choosing hotels, I prefer to leave decisions to others. H4: When I have to make a decision about hotel stays, I wait a long time before starting to think about it. H5: I don't like to take responsibility for making decisions about choosing Luxury hotel X.
Green hotel knowledge (LHK) / Chen and Peng (2012)	LHK1: Compared to average person, I am familiar with green hotels. LHK2: Compared to my friends, I am familiar with green hotels. LHK3: Compared to people who travel a lot, I am familiar with green hotels.
Purchase intentions (PI)/ Hong and Cha (2013)	PI1: I would like to stay at Luxury hotel X. <sup>2</sup> PI2: I would like to recommend my friends and family to stay at Luxury hotel X when traveling. <sup>2</sup> PI3: If there is a luxury hotel that I want to stay at, I would like to stay at Luxury hotel X. <sup>2</sup>

<sup>1</sup>. In the survey, "Luxury hotel X" is the hotel respondent visited.

<sup>2</sup>. Results were reverse coded

**Table 3- Correlations and Descriptive Statistics**

	Mean	SD	CrA	CR	AVE	FuR	HR	SR	FiR	HE	PI
<b>FuR</b>	5.22	1.55	.93	.93	.82	<b>.91</b>					
<b>HR</b>	5.08	1.42	.83	.83	.63	.61	<b>.79</b>				
<b>SR</b>	4.52	1.64	.84	.88	.72	.62	.67	<b>.85</b>			
<b>FiR</b>	5.20	1.47	.92	.92	.79	.60	.70	.56	<b>.89</b>		
<b>HE</b>	5.09	1.41	.93	.93	.76	.67	.65	.64	.62	<b>.87</b>	
<b>PI</b>	4.26	1.80	.92	.93	.80	.39	.62	.63	.47	.43	<b>.89</b>

\*Bold numbers on the diagonal parentheses are square root of each construct's AVE value

\*CrA= Cronach's Alphas; CR= Composite reliability; AVE= Average variance extracted

-FuR= Perceived functional risk; HR= Perceived hedonic risk; SR= Perceived self-image risk; FiR= Perceived financial Risk; HE= hesitation;  
PI= Purchase intentions



**Table 4. Hypotheses tests (H1-H5)**

Path	Standard estimate( <i>t</i> )	Results
H1: Fur→ HE	.28(6.393)***	support
H2: HR→ HE	.32(3.99)***	support
H3: SR→ HE	.13(2.67)**	support
H4: FiR→ HE	.12(2.16)*	support
H5: HE→ PI	.68(11.70)***	support

- FuR= Perceived functional risk; HR= Perceived hedonic risk; SR= Perceived self-image risk; FiR= Perceived financial Risk; HE= hesitation; PI= Purchase intentions

- \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 4. Two group path model estimate (H6)**

Path estimated	Low green hotel knowledge group	High green hotel knowledge group	( $\Delta\chi^2$ , $\Delta df=1$ )	Moderating effect
H6a: Perceived functional risk→ Hesitation	.31***	.13	2.32	Support
H6b: Perceived financial risk→ Hesitation	.18*	.07	1.08	Not support
H6c: Perceived hedonic risk→ Hesitation	.47***	.18*	1.96	Support
H6d: Perceived self-image risk→ Hesitation	.17*	.11	1.18	Not support

**Figure 1. Research framework**

